

1 **Amendment to the Claims**

2 **In the Claims:**

3 Please cancel Claims 21-36 as follows:

4 1. (Original) A method for padding a macroblock of a video object, comprising the steps of:

5 (a) horizontally scanning shape data for successive rows of the macroblock with a
6 host processor to detect any transparent pixels and any opaque pixels contained in each row;

7 (b) at each occurrence of one or more transparent pixels in a row having at least
8 one opaque pixel, detected while horizontally scanning the shape data, determining a horizontal
9 primitive with the host processor, as a function of a number of successive transparent pixels detected
10 in the row;

11 (c) communicating the horizontal primitive to a coprocessor for horizontal
12 padding of the row of the macroblock of step (b), as a function of texture data associated with one or
13 more opaque pixels that are adjacent to said one or more transparent pixels, producing horizontally
14 padded pixels;

15 (d) for each row that includes only transparent pixels, determining a vertical
16 primitive as a function of a number of adjacent rows that include only transparent pixels; and

17 (e) communicating the vertical primitive to the coprocessor for vertical padding of
18 the macroblock as a function of the texture data associated with pixels disposed in one or more
19 adjacent rows, producing a fully padded macroblock.

20 2. (Original) The method of Claim 1, wherein the step of determining the horizontal
21 primitive, comprises the step of determining a coordinate of a first opaque pixel that is adjacent to the
22 one or more transparent pixels in the horizontal row of the macroblock, if the horizontal row includes
23 at least one opaque pixel.

24 3. (Original) The method of Claim 2, further comprising the step of determining a coordinate
25 of a second opaque pixel that is adjacent to the one or more transparent pixels in the horizontal row of
26 the macroblock if the sequential transparent pixels are bounded by opaque pixels on two sides in the
27 horizontal row.

28 4. (Original) The method of Claim 2, further comprising the step of updating the coordinate
29 of the first opaque pixel if more than one opaque pixel occurs sequentially within the horizontal row.

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1 5. (Original) The method of Claim 1, wherein the step of determining the horizontal
2 primitive comprises the steps of:

3 (a) flagging a row number of any horizontal row of the macroblock having only
4 transparent pixels;

5 (b) assigning a dot primitive as the horizontal primitive for padding any
6 transparent pixel that is not adjacent to any other transparent pixel; and

7 (c) assigning a horizontal line as the horizontal primitive if the number of
8 successive transparent pixels is greater than one.

9 6. (Original) The method of Claim 1, wherein the step of determining the vertical primitive,
10 comprises the steps of:

11 (a) determining a number of successive flagged rows in the macroblock, wherein a
12 flagged row is identified during the step of horizontally scanning and is a horizontal row having only
13 transparent pixels; and

14 (b) if the macroblock includes at least one flagged row, determining a row
15 coordinate of a first row that comprises at least one opaque pixel and that is adjacent to said at least
16 one flagged row.

17 7. (Original) The method of Claim 6, further comprising the step of determining a coordinate
18 of a second row that is adjacent to the successive flagged rows in the macroblock if the successive
19 flagged rows are between rows each having at least one opaque pixel.

20 8. (Original) The method of Claim 6, wherein the step of determining the row coordinate of
21 the first row comprises the steps of identifying any successive rows that comprise at least one opaque
22 pixel until the row having at least one opaque pixel and which is adjacent to said at least one flagged
23 row is identified.

24 9. (Original) The method of Claim 5, wherein the step of determining a vertical primitive
25 comprises the steps of:

26 (a) determining that extended padding must be used for the macroblock if all rows
27 of the macroblock are flagged as having only transparent pixels; and if not,

28 (b) assigning a line-v primitive as the vertical primitive for use in padding a
29 flagged row if the flagged row is not adjacent to another flagged row; and

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1 (c) assigning a rectangle primitive as the vertical primitive if the number of
2 successive flagged rows is greater than one.

3 10. (Original) The method of Claim 1, wherein the step of communicating the vertical
4 primitive to the coprocessor, comprises the steps of:

5 (a) determining whether a latency period has been surpassed, said latency period
6 being selected to be sufficiently long to enable the coprocessor to complete horizontal padding of a
7 predefined number of macroblocks; and

8 (b) if the latency period has been surpassed, communicating the vertical primitive
9 to the coprocessor along with at least one argument associated with the vertical primitive.

10 11. (Original) The method of Claim 1, further comprising the steps of:

11 (a) causing the coprocessor to horizontally pad any transparent pixels with texture
12 data associated with a coordinate of one or more opaque pixels identified in the horizontal primitive
13 communicated to the coprocessor; and

14 (b) causing the coprocessor to vertically pad transparent pixels with texture data
15 associated with a coordinate of one or more opaque pixels identified in the vertical primitive
16 communicated to the coprocessor.

17 12. (Original) The method of Claim 11, wherein the step of causing the coprocessor to
18 horizontally pad comprises the steps of:

19 (a) causing the coprocessor to pad any transparent pixels identified in the
20 horizontal primitive with texture data associated with a coordinate of one opaque pixel identified in
21 the horizontal primitive if only one opaque pixel is identified in the horizontal primitive; and

22 (b) causing the coprocessor to pad any transparent pixels identified in the
23 horizontal primitive with an average of texture data associated with coordinates of two opaque pixels
24 identified in the horizontal primitive if two opaque pixels are identified in the horizontal primitive.

25 13. (Original) The method of Claim 11, wherein the step of causing the coprocessor to
26 vertically pad comprises the steps of:

27 (a) causing the coprocessor to pad transparent pixels identified in the vertical
28 primitive with texture data associated with a coordinate of one adjacent row identified in the vertical
29 primitive if only one adjacent row is identified in the vertical primitive; and

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1 (b) causing the coprocessor to pad any transparent pixels identified in the vertical
2 primitive with an average of texture data associated with coordinates of two adjacent rows identified
3 in the vertical primitive if two adjacent rows are identified in the vertical primitive.

4 14. (Original) The method of Claim 1, wherein the horizontal and vertical primitives are
5 determined by the host processor utilizing a host memory in which the shape data are stored and the
6 texture data are stored in a video memory that is utilized by the coprocessor for padding the
7 macroblock.

8 15. (Original) A machine-readable medium storing machine instructions that cause a
9 processor to perform the steps of Claim 1.

10 16. (Original) A system for padding a boundary macroblock of a video object, comprising:

- 11 (a) a graphics coprocessor;
- 12 (b) a host processor in communication with the graphics processor; and
- 13 (c) a host memory in communication with the host processor, said host memory
14 storing shape data defining the video object, a boundary portion of which is associated with the
15 macroblock, and said host memory storing machine instructions that cause the host processor to:
- 16 (i) horizontally scan shape data for successive rows of the macroblock
17 with the host processor to detect any transparent pixels and any opaque pixels contained in each row;
- 18 (ii) at each occurrence of one or more transparent pixels in a row having at
19 least one opaque pixel, detected while horizontally scanning the shape data, determine a horizontal
20 primitive with the host processor, as a function of a number of successive transparent pixels detected
21 in the row;
- 22 (iii) communicate the horizontal primitive to the graphics coprocessor for
23 horizontal padding of the row of the macroblock, as a function of texture data associated with one or
24 more opaque pixels that are adjacent to said one or more transparent pixels, to produce horizontally
25 padded pixels;
- 26 (iv) for each row that includes only transparent pixels, determine a vertical
27 primitive as a function of a number of adjacent rows that include only transparent pixels; and
- 28 (v) communicate the vertical primitive to the coprocessor for vertical padding
29 of the macroblock as a function of the texture data associated with pixels disposed in one or more adjacent
30 rows, to produce a fully padded macroblock.

1 17. (Original) The system of Claim 16, further comprising a video memory in
2 communication with the graphics coprocessor, said video memory storing texture data used to pad the
3 macroblock.

4 18. (Original) The system of Claim 16, further comprising a buffer in communication with
5 the host processor and with the graphics coprocessor, said buffer temporarily storing vertical
6 primitives determined by the host processor until a predefined latency period is surpassed, after
7 which the vertical primitives are communicated to the graphics coprocessor.

8 19. (Original) The system of Claim 16, further comprising a data bus providing
9 communication from the host processor to the graphics coprocessor, said data bus conveying each
10 horizontal primitive and each vertical primitive from the host processor to the graphics coprocessor.

11 20. (Original) The system of Claim 19, wherein the data bus is one of an accelerated
12 graphics port (AGP) bus and a peripheral component interconnect (PCI) bus.

13 21. (Cancelled)

14 22. (Cancelled)

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23 31. (Cancelled)

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25 33. (Cancelled)

26 34. (Cancelled)

27 35. (Cancelled)

28 36. (Cancelled)